Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of detecting edges in a compressed video sequence, the compressed video sequence including at least one frame of block encoded video data, the frame of block encoded video data including variable-length codes for transform coefficients of blocks of pixels in the compressed video sequence, the transform coefficients including a respective DC coefficient for each of the blocks of pixels, each respective DC coefficient for at least some of the blocks of pixels being encoded as a respective variable-length code having a length indicating a certain range of differences in DC coefficient values between adjacent ones of the blocks of pixels, wherein the method comprises:

decoding only the length of the respective variable-length code for the respective DC coefficient for each of said at least some of the blocks of pixels in order to produce an indication of whether or not the compressed video sequence includes an edge associated with said each of said at least some of the blocks of pixels; and

performing a code length threshold comparison upon the length of the respective variable-length code for the respective DC coefficient for said each of said at least some of the blocks of pixels for producing at least one respective bit indicating whether or not the

compressed video sequence includes an edge associated with said each of said at least some of the blocks of pixels.

2. (Original) The method as claimed in claim 1, wherein the compressed video sequence is a color video sequence and there is a respective DC luminance coefficient or a respective DC C_b chrominance coefficient or a respective DC C_r chrominance coefficient for each of the blocks of pixels depending on a color channel of each of the blocks of pixels, and the method includes:

decoding the length of the respective variable-length code for the respective DC luminance coefficient or DC C_b chrominance coefficient or DC C_r chrominance coefficient of said each of said at least some of the blocks of pixels; and

comparing the decoded length of the respective variable-length code for the respective DC luminance coefficient or DC C_b chrominance coefficient or DC C_r chrominance coefficient of said each of said at least some of the blocks of pixels to at least one length threshold to produce at least one respective bit indicating whether or not the compressed video sequence includes a luminance edge or a C_b chrominance edge or a C_r chrominance edge associated with said each of said at least some of the blocks of pixels.

3. (Original) The method as claimed in claim 1, wherein the compressed video sequence is a color video sequence and there is a respective DC luminance coefficient or a respective DC C_b chrominance coefficient or a respective DC C_r chrominance coefficient for

each of the blocks of pixels depending on a color channel of each of the blocks of pixels, and the method includes:

decoding the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the blocks of pixels;

decoding the length of the respective variable-length code for the respective DC C_b chrominance coefficient of said each of said at least some of the blocks of pixels;

decoding the length of the respective variable-length code for the respective DC C_r chrominance coefficient of said each of said at least some of the blocks of pixels;

combining the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the blocks of pixels with the lengths of the respective variable-length codes for the respective DC C_b and C_r chrominance coefficients of said each of said at least some of the blocks of pixels to produce a combined code length; and

wherein at least one code length threshold is compared to the combined code length for producing at least one respective bit indicating whether or not the compressed video sequence includes an edge associated with said each of said at least some of the blocks of pixels.

4. (Original) The method as claimed in claim 3, wherein the combined code length is produced by adding the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the blocks of pixels to the sum of the lengths of the respective variable-length codes for the respective DC C_b and C_r chrominance coefficients of said each of said at least some of the blocks of pixels.

5. (Original) The method as claimed in claim 1, which includes using a thinning filter for filtering the respective bits indicating whether or not the compressed video sequence includes an edge associated with each of said at least some of the blocks of pixels.

6. (Original) The method as claimed in claim 5, wherein the filtering of the respective bits indicating whether or not the compressed video sequence includes an edge associated with said each of said at least some of the blocks of pixels includes comparing the lengths of the respective variable-length codes of the DC coefficients for adjacent blocks of pixels in order to retain indications of edges associated with blocks of pixels having longer variable-length codes for their respective DC coefficients and to exclude indications of edges associated with blocks of pixels having shorter variable-length codes for their respective DC coefficients.

7. (Original) The method as claimed in claim 6, wherein an indication of an edge associated with a block of pixels having a shorter variable-length code of the respective DC coefficients for a pair of adjacent blocks of pixels is not excluded upon comparing signs of the respective DC coefficients for the pair of adjacent blocks of pixels and finding that the signs are different.

8. (Original) The method as claimed in claim 1, which includes inspecting signs of the respective DC coefficients for said at least some of the blocks of pixels, and based on the signs of the respective DC coefficients for said at least some of the blocks of pixels and based on prediction directions of the respective DC coefficients for said at least some of the blocks of pixels and based on the respective bits indicating whether or not the compressed video sequence includes an edge associated with said at least some of the blocks of pixels, producing a first series of bits indicating whether or not the compressed video sequence includes positive horizontal gradient component edges associated with said at least some of the blocks of pixels, and producing a second series of bits indicating whether or not the compressed video sequence includes negative horizontal gradient component edges associated with said at least some of the blocks of pixels.

9. (Original) The method as claimed in claim 1, which includes inspecting signs of the respective DC coefficients for said at least some of the blocks of pixels, and based on the signs of the respective DC coefficients for said at least some of the blocks of pixels and based on prediction directions of the respective DC coefficients for said at least some of the blocks of pixels and based on the respective bits indicating whether or not the compressed video sequence includes an edge associated with said at least some of the blocks of pixels, producing a first series of bits indicating whether or not the compressed video sequence includes positive vertical gradient component edges associated with said at least some of the blocks of pixels, and producing a second series of bits indicating whether or not the compressed video sequence

includes negative vertical gradient component edges associated with said at least some of the blocks of pixels.

10. (Original) The method as claimed in claim 1, wherein the transform coefficients include respective horizontal frequency transform coefficients and respective vertical frequency transform coefficients for each block of pixels, and the method includes inspecting a lowest nonzero horizontal frequency transform coefficient and a lowest nonzero vertical frequency transform coefficient for at least one of the blocks of pixels to determine orientation of an edge associated with said at least one of the blocks of pixels.

11. (Original) The method as claimed in claim 1, wherein the transform coefficients include respective horizontal frequency transform coefficients and respective vertical frequency transform coefficients for each block of pixels, and the method includes using a lowest nonzero horizontal frequency transform coefficient and a lowest nonzero vertical frequency transform coefficient for at least one of the blocks of pixels for computing an approximate gradient vector of an edge associated with said at least one of the blocks of pixels.

12. (Original) A method of detecting edges in a compressed video sequence, the compressed video sequence including at least one I-frame of MPEG video data, the I-frame of MPEG video data including variable-length codes for DCT coefficients of 8x8 pixel blocks in the compressed video sequence, the DCT coefficients including a respective DC coefficient for

each of the 8x8 pixel blocks, each respective DC coefficient for at least some of the 8x8 pixel blocks being encoded as a respective variable-length code having a length indicating a certain range of differences in DC coefficient values between adjacent ones of the 8x8 pixel blocks, wherein the method comprises:

decoding only the length of the respective variable-length code for the respective DC coefficient for each of said at least some of the 8x8 pixel blocks in order to produce an indication of whether or not the compressed video sequence includes an edge associated with said each of said at least some of the 8x8 pixel blocks; and

performing a code length threshold comparison upon the length of the respective variable-length code for the respective DC coefficient for said each of said at least some of the 8x8 pixel blocks for producing at least one respective bit indicating whether or not the compressed video sequence includes an edge associated with said each of said at least some of the 8x8 pixel blocks.

13. (Original) The method as claimed in claim 12, wherein the compressed video sequence is a color video sequence and there is a respective DC luminance coefficient or a respective DC C_b chrominance coefficient or a respective DC C_r chrominance coefficient for each of the 8x8 pixel blocks depending on a color channel of each of the 8x8 pixel blocks, and the method includes:

decoding the length of the respective variable-length code for the respective DC luminance coefficient or DC C_b chrominance coefficient or DC C_r chrominance coefficient of said each of said at least some of the 8x8 pixel blocks; and

comparing the decoded length of the respective variable-length code for the respective DC luminance coefficient or DC C_b chrominance coefficient or DC C_r chrominance coefficient of said each of said at least some 8x8 pixel blocks to at least one length threshold to produce at least one respective bit indicating whether or not the compressed video sequence includes a luminance edge or a C_b chrominance edge or a C_r chrominance edge associated with said each of said at least some of the 8x8 pixel blocks.

14. (Original) The method as claimed in claim 12, wherein the compressed video sequence is a color video sequence and there is a respective DC luminance coefficient or a respective DC C_b chrominance coefficient or a respective DC C_r chrominance coefficient for each of the 8x8 pixel blocks depending on a color channel of each of the 8x8 pixel blocks, and the method includes:

decoding the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the 8x8 pixel blocks;

decoding the length of the respective variable-length code for the respective DC C_b chrominance coefficient of said each of said at least some of the 8x8 pixel blocks;

decoding the length of the respective variable-length code for the respective DC C_r chrominance coefficient of said each of said at least some of the 8x8 pixel blocks;

combining the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the 8x8 pixel blocks with the lengths of the respective variable-length codes for the respective DC C_b and C_r chrominance coefficients of said each of said at least some of the 8x8 pixel blocks to produce a combined code length; and

wherein at least one code length threshold is compared to the combined code length for producing at least one respective bit indicating whether or not the compressed video sequence includes an edge associated with said each of said at least some of the 8x8 pixel blocks.

15. (Original) The method as claimed in claim 14, wherein the combined code length is produced by adding the length of the respective variable-length code for the respective DC luminance coefficient of said each of said at least some of the 8x8 pixel blocks to the sum of the lengths of the respective variable-length codes for the respective DC C_b and C_r chrominance coefficients of said each of said at least some of the 8x8 pixel blocks.

16. (Original) The method as claimed in claim 12, which includes using a thinning filter for filtering the respective bits indicating whether or not the compressed video sequence includes an edge associated with each of said at least some of the 8x8 pixel blocks.

17. (Original) The method as claimed in claim 16, wherein the filtering of the respective bits indicating whether or not the compressed video sequence includes an edge associated with said each of said at least some of the 8x8 pixel blocks includes comparing the

lengths of the respective variable-length codes of the DC coefficients for adjacent 8x8 pixel blocks in order to retain indications of edges associated with 8x8 pixel blocks having longer variable-length codes for their respective DC coefficients and to exclude indications of edges associated with 8x8 pixel blocks having shorter variable-length codes for their respective DC coefficients.

18. (Original) The method as claimed in claim 17, wherein an indication of an edge associated with a block of pixels having a shorter variable-length code of the respective DC coefficients for a pair of adjacent 8x8 pixel blocks is not excluded upon comparing signs of the respective DC coefficients for the pair of adjacent 8x8 pixel blocks and finding that the signs are different.

19. (Currently amended) The method as claimed in claim 12, which includes inspecting signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks, and based on the signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on prediction directions of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on the respective bits indicating whether or not the compressed video sequence includes an edge associated with said at least some of the 8x8 pixel blocks, producing a first series of bits indicating whether or not the compressed video sequence includes positive horizontal gradient component edges associated with said at least some of the 8x8 pixel blocks, and producing a second series of bits indicating whether or not the compressed video

sequence includes negative horizontal gradient component edges associated with said at least some of the 8x8 pixel blocks.

~~The method as claimed in claim 11, which includes inspecting signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks, and based on the signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on prediction directions of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on the respective bits indicating whether or not the compressed video sequence includes an edge associated with said at least some of the 8x8 pixel blocks, producing a first series of bits indicating whether or not the compressed video sequence includes positive vertical gradient component edges associated with said at least some of the 8x8 pixel blocks, and producing a second series of bits indicating whether or not the compressed video sequence includes negative vertical gradient component edges associated with said at least some of the 8x8 pixel blocks.~~

20. (Original) The method as claimed in claim 12, wherein the DCT coefficients include respective horizontal frequency DCT coefficients and respective vertical frequency DCT coefficients for each of the 8x8 pixel blocks, and the method includes inspecting a lowest nonzero horizontal frequency DCT coefficient and a lowest nonzero vertical frequency DCT coefficient for at least one of the 8x8 pixel blocks to determine orientation of an edge associated with said at least one of the 8x8 pixel blocks.

21. (Original) The method as claimed in claim 12, wherein the DCT coefficients include respective horizontal frequency DCT coefficients and respective vertical frequency DCT coefficients for each of the 8x8 pixel blocks, and the method includes using a lowest nonzero horizontal frequency DCT coefficient and a lowest nonzero vertical frequency DCT coefficient for at least one of the 8x8 pixel blocks for computing an approximate gradient vector of an edge associated with said at least one of the 8x8 pixel blocks.

Claims 22 to 47 (Canceled)

48. (New) The method as claimed in claim 11, which includes inspecting signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks, and based on the signs of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on prediction directions of the respective DC coefficients for said at least some of the 8x8 pixel blocks and based on the respective bits indicating whether or not the compressed video sequence includes an edge associated with said at least some of the 8x8 pixel blocks, producing a first series of bits indicating whether or not the compressed video sequence includes positive vertical gradient component edges associated with said at least some of the 8x8 pixel blocks, and producing a second series of bits indicating whether or not the compressed video sequence includes negative vertical gradient component edges associated with said at least some of the 8x8 pixel blocks.